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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/891,022

06/25/2001

Ali Najib Saleh

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04/12/2006

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EXAMINER

CHO, HONG SOL

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

87

<b>Office Action Summary</b>	Application No. 09/891,022	Applicant(s) SALEH ET AL.	
	Examiner Hong Cho	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-117 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 113 is/are allowed.
- 6) ☒ Claim(s) 1-7, 14, 16, 17, 29-35, 42, 44, 45, 57-63, 70, 72, 73, 85-91, 98, 100, 101 and 114-117 is/are rejected.
- 7) ☒ Claim(s) 8-13, 15, 18-28, 36-41, 43, 46-56, 64-69, 71, 74-84, 92-97, 99 and 102-112 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This office action is in response to the RCE filed on 02/15/2006. Claims 1-117 are pending in the instant application.

### ***Claim Objections***

2. Claim 114 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

### ***Claim Rejections - 35 USC § 112, First paragraph***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:  
  
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claim 117 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Re claim 117, it recites, "said resources comprise an available class of service".

The original specification fails to describe the above claim limitation.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 29-31, 57-59, 85-87, and 114-116 are rejected under 35 U.S.C. 102(e) as being anticipated by Azuma et al (U.S 6430150), hereinafter referred to as Azuma.

Re claims 1, 29, 57, and 85, Azuma discloses restoring traffic on alternate virtual path (*restoring a virtual path using an alternate physical path*, abstract). Azuma discloses an alternate path computing part computing topology information to find alternate paths by referring to the physical topology information (*identifying a plurality of nodes with resources, wherein nodes with resources are ones of said nodes having a resource necessary to support virtual path*, column 8, lines 13-17). Azuma discloses executing topology computation by using the physical and logical topology tables (*identifying an alternate path in response to said identifying said plurality of nodes with*

*resources, said alternate path comprising ones of said nodes with resources*, column 10, lines 24-43; figure 8, elements 11-13 and 18).

Re claims 2, 30, 58, and 86, Azuma discloses restoring a virtual path using an alternate physical path (figure 5a).

Re claims 3, 31, 59 and 87, Azuma discloses configuring an alternate physical path by establishing a communication connection between nodes with resources and provisioning virtual path over the alternate physical path (column 8, lines 20-26).

Re claim 114, Azuma discloses an alternate path computing part computing topology information to find alternate paths (*determining whether a node under consideration would be appropriate for use in restoring said virtual path*) by referring to the physical topology information (*by virtue of having sufficient resources to support physical path to be used by said virtual path*, column 8, lines 13-17).

Re claim 115, Azuma inherently discloses finding an alternate path connecting nodes with bandwidth to support additional data traffic.

Re claim 116, Azuma inherently discloses finding an alternate path connecting nodes with ports to support additional data traffic.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4-7, 14, 16, 17, 32-35, 42, 44, 45, 60-63, 70, 72, 73, 88-91, 98, 100 and 101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma in view of Finn et al (U.S 6728205), hereinafter referred to as Finn.

Re claims 4, 32, 60 and 88, Azuma discloses detecting a failure in a virtual path by receiving a failure message packet (column 8, lines 4-5) and restoring virtual path for mesh networks (column 1, lines 8-10). Azuma fails to disclose provisioning a virtual path on a physical path between a first and a second node of an optical network wherein each one of nodes is coupled to at least one another of nodes by a plurality of optical links. Finn discloses network nodes connected through fiber optic cables and re-routing messages through a secondary path in case a primary path fails (column 16, lines 1-8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Azuma to be used in optical network of Finn. The motivation is to get the benefit of high-speed network communications through fiber optic cables so that a prompt restoration is achieved through high-speed fiber optic communications.

Re claims 5, 6, 33, 34, 61, 62, 89 and 90, Azuma discloses all of the limitation of the base claim, but fails to disclose restoring a virtual path less than 2 seconds or 250 milliseconds. Finn discloses restoration time being about 50 milliseconds. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Azuma to be recovered less than 200 milliseconds by employing the concept of automatic protection switching in an optical network of Finn. The

motivation is to provide fast restoration scheme and time so that switching to an alternate virtual path is transparent.

Re claims 7, 35, 63 and 91, Azuma discloses detecting a failure in a virtual path by receiving a failure message packet (column 8, lines 4-5).

Re claims 14, 16, 42, 44, 70, 72, 98 and 100, Azuma discloses intermediate nodes receiving a failure message (column 5, lines 15-17).

Re claims 17, 45, 73 and 101, Azuma discloses acknowledging a failure message and changing a state of the virtual path to down and releasing resources of the virtual path (column 6, lines 41-51; column 8, lines 15-18).

Claim 117 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma in view of Bentall et al (U.S 6282170), hereinafter referred to as Bentall.

Re claim 117, Azuma discloses all of the limitations of the base claim, but fails to disclose identifying the plurality of nodes with an available class of service. Bentall discloses allowing various levels of quality of service within network (column 17, line 65 to column 18, line 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Azuma to perform alternate path routing based on level of quality of service at a given node so that data traffic would be rerouted through the optimized path.

*Allowable Subject Matter*

9. Claim 113 is allowed.
10. Claims 8-13, 15, 18-28, 36-41, 43, 46-56, 64-69, 71, 74-84, 92-97, 99, and 102-112 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Response to Arguments*

11. Applicant's arguments filed on 02/15/2006 have been fully considered but they are not persuasive.

On page 32 Applicant argues that Azuma does not disclose identifying the alternate physical path as a result of identifying a plurality of nodes with resources. The Examiner respectfully disagrees. Azuma discloses determining alternate paths by using the physical and logical topology information that have identified the plurality of nodes with resources. It is clear that Azuma identifies nodes with resources as a result of computation for finding alternate paths to restore failed path.

The Examiner concludes that the rejection of claims stands.

*Conclusion*



Art Unit: 2616

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087.

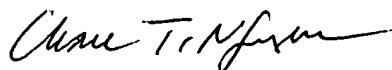
The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*he*  
Hong Cho  
Patent Examiner  
4/4/2006



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